**List of Appendices**

Appendix A: Implementation of Audit Study

Appendix B: Ethical Concerns and Potential for Harm

Appendix C: Legislator Gender and Helpful Response, Among Those Who Respond

Appendix D: Legislator Gender and Bill Sponsorship

Appendix E: Mean Rates of Reply by State

Appendix F: Multilevel Models with Legislators Nested in Districts and States

Appendix G: Gender and Legislative Responsiveness, Bivariate Models

Appendix H: Legislator Gender and Multi-Member Districts

Appendix I: Interaction Between Legislator Gender and Bill Sponsorship

Appendix J: Legislator Gender and Staff Differences

Appendix K: Legislator Gender and Volume of Constituent Requests

Appendix L: Tables 1-4 in Paper, Logistic Regression Models

**Appendix A: Implementation of Audit Study**

 We received IRB approval from both universities before conducting the study (protocol numbers 16-053 and D0473). As noted in the article, we used a 2x2 design, and we randomized constituent gender and the gendered nature of the request. This resulted in four treatments, one of which was received by each legislator.

**Table A1: Treatments**

|  |  |  |
| --- | --- | --- |
|  | **Male** | **Female** |
| **Gender Treatment** | Male, Gendered | Female, Gendered |
| **No Gender Treatment** | Male, Non-Gendered | Female, Non-Gendered |

 For our constituent gender treatment, we created ten different aliases, five male and five female (Michael/Lisa Smith; David/Mary Johnson; John/Susan Williams; James/Karen Miller; Robert/Kimberly Jones). Each email address was linked to its own individual domain name. For example, Michael Smith’s email address was michael@michaelsmith10.com while Lisa Smith’s was lisa@lisasmith10.com. We created different aliases to decrease the chance that legislators serving in the same legislature would receive identical emails from identical constituents.

 In order to ensure that the random assignments of constituent gender and gender appeal fell evenly across the population of legislators, we used a two-step randomization process. We first randomly assigned each legislator to one of the four treatment conditions. We then randomly assigned the corresponding gendered aliases to each of the four resulting treatment blocks. For example, those legislators who received the female, non-gendered treatment were randomly assigned one of the five female aliases, as were the legislators who received the female, gendered treatment. Similarly, the legislators who received the male, non-gendered treatment and the male, gendered treatment were randomly assigned one of the 5 male aliases. Tables A2 and A3 demonstrate that the gender treatment and gender appeal treatment were evenly distributed across parties and sex of legislator.

**Table A2: Gender Appeal**

|  |  |  |
| --- | --- | --- |
|  | **Gender Treatment** | **No Gender Treatment** |
| **Republican** | 2097 (50%) | 2023 (50%) |
| **Democrat** | 1595 (51%) | 1523 (48%) |
| **Male Legislator** | 2816 (51%) | 2697 (48%) |
| **Female Legislator** | 906 (50%) | 886 (49%) |

**Table A3: Constituent Gender**

|  |  |  |
| --- | --- | --- |
|  | **Male Constituent** | **Female Constituent** |
| **Republican** | 2072 (50%) | 2048 (40%) |
| **Democrat** | 1554 (49%) | 1564 (50%) |
| **Male Legislator** | 2773 (50%) | 2740 (49%) |
| **Female Legislator** | 886 (49%) | 906 (50%) |

Table A4 presents a randomization check verifying that the random assignments of constituent gender and gender appeal were also uncorrelated with observable characteristics of the replies.

**Table A4: Randomization Check**

We also checked to see if the response rate differed across the ten aliases. For the most part, the aliases received similar response rates, as shown in Table A5. The response rate to the Kimberly Jones alias, however, did differ from the other nine aliases (49 vs. 55 percent; p<0.01). With respect to helpful replies, the response rate to the Michael Smith alias was slightly higher than that to the other nine aliases (37 vs. 34 percent; p<0.10).

**Table A5: Response Rates by Alias**

|  |  |
| --- | --- |
| **Reply** | **Helpful Reply** |
| Michael Smith: 56% | Lisa Smith: 57% | Michael Smith: 37% | Lisa Smith: 35% |
| David Johnson: 53% | Mary Johnson: 56% | David Johnson: 33% | Mary Johnson: 34% |
| John Williams: 53% | Susan Williams: 56% | John Williams: 33% | Susan Williams: 34% |
| James Miller: 52% | Karen Miller: 54% | James Miller: 32% | Karen Miller: 34% |
| Robert Jones: 57% | Kimberly Jones: 49% | Robert Jones: 36% | Kimberly Jones: 34% |

Table A6 presents the models in Table 1 with the addition of a dummy variable for the Kimberly Jones and Michael Smith aliases in the reply and helpful reply models, respectively. The results are the same as those in the paper: women are more likely to respond, and to respond helpfully, than their male counterparts.

**Table A6: Gender and Legislative Responsiveness, Controlling for the Kimberly Jones and Michael Smith Aliases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |
| Female | 0.04\*\* | 0.05\*\* | 0.04\*\* | 0.05\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Kimberly Alias | -0.06\*\* | -0.02 |  |  |
|  | (0.02) | (0.02) |  |  |
| Michael Alias |  |  | 0.02 | 0.04† |
|  |  |  | (0.02) | (0.02) |
| Bills Sponsored | 0.04\*\* | 0.03\*\* | 0.04\*\* | 0.03\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Republican | 0.02 | -0.02† | 0.02 | -0.02 |
|  | (0.02) | (0.01) | (0.02) | (0.01) |
| Senator | 0.05\*\* | 0.03† | 0.05\*\* | 0.03† |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Party Leader | 0.09\* | 0.09† | 0.09\* | 0.09† |
|  | (0.04) | (0.04) | (0.04) | (0.04) |
| Committee Chair | -0.01 | -0.02 | -0.01 | -0.02 |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Years in Office | -0.01\*\* | -0.01\*\* | -0.01\*\* | -0.01\*\* |
|  | (0.00) | (0.00) | (0.00) | (0.00) |
| Minority Party | -0.04\* | -0.04\*\* | -0.04\* | -0.04\*\* |
|  | (0.02) | (0.01) | (0.02) | (0.01) |
| Previous Vote Share | -0.00 | -0.00† | -0.00 | -0.00† |
|  | (0.00) | (0.00) | (0.00) | (0.00) |
| Up for Reelection | -0.05 | -0.14\*\* | -0.05 | -0.14\*\* |
|  | (0.07) | (0.05) | (0.07) | (0.05) |
| District Conservatism | 0.07\*\* | -0.01 | 0.07\*\* | -0.01 |
|  | (0.03) | (0.02) | (0.03) | (0.02) |
| District Population (100,000s) | -0.02\* | -0.01 | -0.02\* | -0.01 |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| District Median Income ($10,000s) | 0.00 | 0.02\*\* | 0.00 | 0.02\*\* |
|  | (0.00) | (0.00) | (0.00) | (0.00) |
| Constant | 0.29\*\* | 0.17\*\* | 0.28\*\* | 0.17\*\* |
|  | (0.06) | (0.05) | (0.06) | (0.05) |
|  |  |  |  |  |
| Observations | 6,268 | 6,268 | 6,268 | 6,268 |
| R-squared | 0.11 | 0.15 | 0.11 | 0.15 |

Note: OLS regression coefficients with robust standard errors in parentheses. All models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

**Appendix B: Ethical Concerns and Potential for Harm**

Here we discuss the ethical concerns that arise when conducting an audit study such as ours.[[1]](#footnote-1) As Butler and Broockman (2011) note, there are three main points of concern: the use of deception, the potential for harm, and the potential burden of the treatment. First, the nature of this audit study requires that we deceive state legislators by using fictional aliases and by manipulating the type of email message received. This was a necessary component of the study, because we wanted to see whether or not male and female legislators differed in response rates when responding to “real” male and female constituents. If we had obtained consent prior to the study, we could not have been certain that legislator behavior had not changed as a result. Second, deception was necessary in order to ensure that we could randomly assign both the gender and gender appeal treatments equally across the population of legislators.

We also had to take into account the potential for harm. Following Butler and Broockman (2011), we took steps to maintain the anonymity of the legislators’ responses. The results presented are average comparisons and, given that each legislator only received one email, we cannot say whether or not they would have responded to the other treatments. Finally, we needed to consider the burden placed on both legislators and their constituents, and we were careful to design a treatment that did not take too much time nor divert attention away from real constituents’ concerns. Although some legislators clearly went above and beyond the call of duty in their helpful responses to our “constituent” emails, the vast majority of emails we received would have taken only a couple of minutes to compose. Responding to our treatment should not have caused any significant harm to legislators or their constituents, and we are confident we left a very small footprint in the wake of our study.

|  |  |  |
| --- | --- | --- |
|  | (1) | (2) |
|  | Helpful Reply | Helpful Reply (Leg Only) |
|  |  |  |
| Female | 0.05\*\* | 0.04† |
|  | (0.02) | (0.02) |
| Bills Sponsored | 0.01 | 0.01 |
|  | (0.01) | (0.02) |
| Republican | -0.07\*\* | -0.12\*\* |
|  | (0.02) | (0.03) |
| Senator | 0.01 | -0.05 |
|  | (0.02) | (0.03) |
| Party Leader | 0.06 | 0.12† |
|  | (0.05) | (0.07) |
| Committee Chair | -0.02 | -0.03 |
|  | (0.02) | (0.03) |
| Years in Office | -0.01\*\* | -0.01\*\* |
|  | (0.00) | (0.00) |
| Minority Party | -0.03 | -0.04 |
|  | (0.02) | (0.03) |
| Previous Vote Share | -0.00 | -0.00 |
|  | (0.00) | (0.01) |
| Up for Reelection | -0.28\* | -0.20† |
|  | (0.11) | (0.12) |
| District Conservatism | -0.10\*\* | -0.11\* |
|  | (0.03) | (0.04) |
| District Population (100,000s) | 0.01 | 0.02 |
|  | (0.01) | (0.04) |
| District Median Income ($10,000s) | 0.02\*\* | 0.02\*\* |
|  | (0.00) | (0.01) |
| Constant | 0.54\*\* | 0.57\*\* |
|  | (0.09) | (0.11) |
|  |  |  |
| Observations | 3,521 | 2,062 |
| R-squared | 0.19 | 0.18 |

**Appendix C: Legislator Gender and Helpful Response, Among Those Who Replied**

Note: OLS regression coefficients with robust standard errors in parentheses. Both models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

|  |  |  |
| --- | --- | --- |
|  | (1) | (2) |
|  | Bills Sponsored | Bills Sponsored |
|  |  |  |
| Female | 0.08\*\* | 0.06\*\* |
|  | (0.02) | (0.02) |
| Republican |  | -0.07\*\* |
|  |  | (0.02) |
| Senator |  | 0.26\*\* |
|  |  | (0.02) |
| Party Leader |  | -0.11 |
|  |  | (0.09) |
| Committee Chair |  | 0.12\*\* |
|  |  | (0.02) |
| Years in Office |  | -0.00 |
|  |  | (0.00) |
| Minority Party |  | 0.03† |
|  |  | (0.02) |
| Previous Vote Share |  | 0.01† |
|  |  | (0.00) |
| Up for Reelection |  | 0.54\*\* |
|  |  | (0.08) |
| District Conservatism |  | -0.12\*\* |
|  |  | (0.03) |
| District Population (100,000s) |  | -0.07\*\* |
|  |  | (0.01) |
| District Median Income ($10,000s) |  | 0.02\*\* |
|  |  | (0.01) |
| Constant | 2.22\*\* | 2.08\*\* |
|  | (0.06) | (0.08) |
|  |  |  |
| Observations | 6,663 | 6,268 |
| R-squared | 0.80 | 0.80 |

**Appendix D: Legislator Gender and Bill Sponsorship**

Note: OLS regression coefficients with robust standard errors in parentheses. Both models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

**Appendix E: Mean Rates of Reply by State**

|  |  |  |
| --- | --- | --- |
| **State** | **Women** | **Men** |
| Alabama | 0.40 | 0.34 |
| Alaska | 0.76 | 0.76 |
| Arizona | 0.53 | 0.48 |
| Arkansas | 0.64 | 0.54 |
| California | 0.48 | 0.48 |
| Colorado | 0.48 | 0.32 |
| Connecticut | 0.42 | 0.35 |
| Delaware | 0.86 | 0.76 |
| Florida | 0.67 | 0.68 |
| Georgia | 0.42 | 0.56 |
| Hawaii | 0.73 | 0.54 |
| Idaho | 0.68 | 0.53 |
| Illinois | 0.59 | 0.53 |
| Indiana | 0.19 | 0.15 |
| Iowa | 0.62 | 0.53 |
| Kansas | 0.43 | 0.46 |
| Kentucky | 0.45 | 0.38 |
| Louisiana | 0.68 | 0.61 |
| Maine | 0.51 | 0.44 |
| Maryland | 0.77 | 0.80 |
| Massachusetts | 0.68 | 0.73 |
| Michigan | 0.87 | 0.75 |
| Minnesota | 0.46 | 0.43 |
| Mississippi | 0.38 | 0.29 |
| Missouri | 0.83 | 0.76 |
| Montana | 0.57 | 0.53 |
| Nebraska | 0.91 | 0.75 |

|  |  |  |
| --- | --- | --- |
| **State** | **Women** | **Men** |
| Nevada | 0.44 | 0.46 |
| New Hampshire | 0.41 | 0.40 |
| New Jersey | 0.50 | 0.63 |
| New Mexico | 0.50 | 0.54 |
| New York | 0.60 | 0.57 |
| North Carolina | 0.58 | 0.71 |
| North Dakota | 0.48 | 0.52 |
| Ohio | 0.55 | 0.53 |
| Oklahoma | 0.55 | 0.66 |
| Oregon | 0.83 | 0.76 |
| Pennsylvania | 0.79 | 0.68 |
| Rhode Island | 0.71 | 0.59 |
| South Dakota | 0.50 | 0.61 |
| Tennessee | 0.50 | 0.81 |
| Texas | 0.58 | 0.46 |
| Utah | 0.75 | 0.66 |
| Vermont | 0.49 | 0.46 |
| Virginia | 0.85 | 0.79 |
| Washington | 0.68 | 0.66 |
| West Virginia | 0.45 | 0.33 |
| Wisconsin | 0.74 | 0.71 |
| Wyoming | 0.67 | 0.32 |

**Appendix F: Multilevel Models with Legislators Nested in Districts and States**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |
| Female | 0.04\*\* | 0.06\*\* | 0.04\*\* | 0.05\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Bills Sponsored |  |  | 0.04\*\* | 0.03\*\* |
|  |  |  | (0.01) | (0.01) |
| Republican | 0.02 | -0.03† | 0.02 | -0.03† |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Senator | 0.06\*\* | 0.03† | 0.05\*\* | 0.02 |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Party Leader | 0.09\* | 0.09\* | 0.09\* | 0.09\* |
|  | (0.04) | (0.04) | (0.04) | (0.04) |
| Committee Chair | -0.00 | -0.01 | -0.01 | -0.02 |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Years in Office | -0.01\*\* | -0.01\*\* | -0.01\*\* | -0.01\*\* |
|  | (0.00) | (0.00) | (0.00) | (0.00) |
| Minority Party | -0.04\* | -0.04\*\* | -0.04\* | -0.04\*\* |
|  | (0.02) | (0.01) | (0.02) | (0.01) |
| Previous Vote Share | -0.00 | -0.00 | -0.00 | -0.00 |
|  | (0.00) | (0.00) | (0.00) | (0.00) |
| Up for Reelection | -0.03 | -0.06 | -0.03 | -0.07 |
|  | (0.07) | (0.07) | (0.06) | (0.07) |
| District Conservatism | 0.06\* | -0.01 | 0.06\* | -0.01 |
|  | (0.03) | (0.02) | (0.03) | (0.02) |
| District Population (100,000s) | -0.02\* | -0.00 | -0.02\* | -0.00 |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| District Median Income ($10,000s) | 0.01† | 0.02\*\* | 0.01 | 0.02\*\* |
|  | (0.00) | (0.00) | (0.00) | (0.00) |
| Constant | 0.59\*\* | 0.39\*\* | 0.45\*\* | 0.28\*\* |
|  | (0.07) | (0.07) | (0.08) | (0.08) |
|  |  |  |  |  |
| Observations | 6,378 | 6,378 | 6,268 | 6,268 |
| Number of groups | 49 | 49 | 49 | 49 |

Note: OLS regression coefficients with robust standard errors in parentheses. All models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

**Appendix G: Gender and Legislative Responsiveness, Bivariate Models**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |
| Female | 0.03\* | 0.06\*\* | 0.02† | 0.06\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Bills Sponsored |  |  | 0.04\*\* | 0.03\*\* |
|  |  |  | (0.01) | (0.01) |
| Constant | 0.35\*\* | 0.18\*\* | 0.26\*\* | 0.12\*\* |
|  | (0.04) | (0.03) | (0.05) | (0.04) |
|  |  |  |  |  |
| Observations | 6,378 | 6,378 | 6,268 | 6,268 |
| R-squared | 0.10 | 0.13 | 0.10 | 0.14 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |
| Female | 0.03\* | 0.07\*\* | 0.03† | 0.06\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Bills Sponsored |  |  | 0.04\*\* | 0.05\*\* |
|  |  |  | (0.00) | (0.00) |
| Constant | 0.55\*\* | 0.34\*\* | 0.38\*\* | 0.13\*\* |
|  | (0.01) | (0.01) | (0.02) | (0.02) |
|  |  |  |  |  |
| Observations | 6,378 | 6,378 | 6,268 | 6,268 |
| R-squared | 0.00 | 0.00 | 0.02 | 0.03 |

Note: The top models include state fixed effects and the bottom models do not.

**Appendix H: Legislator Gender and Multi-Member Districts**

 We also examined whether gender differences in responsiveness emerge in multi-member districts in which at least one man and one woman represent the same district. The models below are restricted to same-party legislators. District fixed effects are included in all of the models. The same pattern emerges and the size of the coefficient is similar to that in the tables presented in the paper, but the size of the sample is very small and the relationship is not significant at p<0.05. The sample is limited in terms of its generalizability, but the results are similar in magnitude and direction to those in the paper.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |
| Female | 0.07 | 0.04 | 0.07 | 0.07† |
|  | (0.05) | (0.04) | (0.05) | (0.04) |
| Bills Sponsored |  |  | -0.02 | 0.01 |
|  |  |  | (0.05) | (0.02) |
| Republican |  |  | 0.66 | 0.70 |
|  |  |  | (0.48) | (0.45) |
| Party Leader |  |  | 0.14 | 0.29 |
|  |  |  | (0.20) | (0.18) |
| Committee Chair |  |  | 0.04 | -0.05 |
|  |  |  | (0.10) | (0.08) |
| Years in Office |  |  | -0.02† | -0.02\* |
|  |  |  | (0.01) | (0.01) |
| Minority Party |  |  | 0.19 | 0.13 |
|  |  |  | (0.24) | (0.15) |
| Previous Vote Share |  |  | -0.00 | -0.01 |
|  |  |  | (0.03) | (0.02) |
| Constant | 0.46 | 0.48 | 0.31 | 0.29 |
|  | (0.43) | (0.44) | (0.41) | (0.41) |
|  |  |  |  |  |
| Observations | 428 | 428 | 398 | 398 |
| R-squared | 0.46 | 0.57 | 0.49 | 0.62 |

Note: OLS regression coefficients with robust standard errors in parentheses. All models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

**Appendix I: Interaction Between Legislator Gender and Bill Sponsorship**

|  |  |  |
| --- | --- | --- |
|  | (1) | (2) |
|  | Reply | Helpful Reply |
|  |  |  |
| Female | 0.06 | 0.08† |
|  | (0.04) | (0.04) |
| Bills Sponsored | 0.04\*\* | 0.03\*\* |
|  | (0.01) | (0.01) |
| Female x Bills Sponsored | -0.01 | -0.01 |
|  | (0.01) | (0.01) |
| Republican | 0.02 | -0.02 |
|  | (0.02) | (0.01) |
| Senator | 0.05\*\* | 0.03† |
|  | (0.02) | (0.02) |
| Party Leader | 0.09\* | 0.09† |
|  | (0.04) | (0.04) |
| Committee Chair | -0.01 | -0.02 |
|  | (0.01) | (0.01) |
| Years in Office | -0.01\*\* | -0.01\*\* |
|  | (0.00) | (0.00) |
| Minority Party | -0.04\* | -0.04\*\* |
|  | (0.02) | (0.01) |
| Previous Vote Share | -0.00 | -0.00 |
|  | (0.00) | (0.00) |
| Up for Reelection | -0.05 | -0.14\*\* |
|  | (0.07) | (0.05) |
| District Conservatism | 0.07\*\* | -0.01 |
|  | (0.03) | (0.02) |
| District Population (100,000s) | -0.02\* | -0.01 |
|  | (0.01) | (0.01) |
| District Median Income ($10,000s) | 0.00 | 0.02\*\* |
|  | (0.00) | (0.00) |
| Constant | 0.28\*\* | 0.16\*\* |
|  | (0.06) | (0.05) |
|  |  |  |
| Observations | 6,268 | 6,268 |
| R-squared | 0.11 | 0.15 |

Note: OLS regression coefficients with robust standard errors in parentheses. Both models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

**Appendix J: Legislator Gender and Staff Differences**

To more fully examine the role of staff on gender differences in responsiveness, we also drew on a survey that was conducted by the National Conference of State Legislatures about state legislative staff (NCSL 2010). The following chambers did not return a survey so we do not have data for these cases: Florida Senate, Massachusetts Senate, Massachusetts House, Minnesota House, New Jersey Senate, New Jersey Assembly, New York Senate, New York Assembly, and Texas House. The missing cases account for 11.7 percent of our sample, but this survey provides the best available data on staff differences for our purposes. We ran the models in Columns 3 and 4 in Table 1, controlling for two additional variables: 1) Staff to legislator ratio, with higher values indicating more staff per legislator, and 2) Whether the legislator hires her own staff, with 1 indicating that the legislator hires her staff and 0 indicating that the legislator does not hire her staff. The results are presented below and are the same as those in the paper. Women legislators are more likely to respond, and to respond helpfully, controlling for staff to legislator ratio and whether the legislator hires her staff.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |
| Female | 0.04\* | 0.04\*\* | 0.04\* | 0.06\*\* |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Bills Sponsored | 0.06\*\* | 0.03\*\* | 0.03\* | 0.03\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Republican | -0.02 | -0.06\*\* | 0.02 | -0.01 |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Senator | 0.05† | 0.01 | 0.03 | 0.02 |
|  | (0.02) | (0.02) | (0.03) | (0.03) |
| Party Leader | 0.05 | 0.07 | 0.09† | 0.08 |
|  | (0.05) | (0.05) | (0.05) | (0.06) |
| Committee Chair | 0.01 | -0.01 | -0.00 | -0.01 |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Years in Office | -0.01\*\* | -0.01\*\* | -0.01\*\* | -0.01\*\* |
|  | (0.00) | (0.00) | (0.00) | (0.00) |
| Minority Party | -0.05\* | -0.04\*\* | -0.04† | -0.04† |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Previous Vote Share | -0.00 | 0.00 | -0.00 | -0.01 |
|  | (0.00) | (0.00) | (0.00) | (0.00) |
| Up for Reelection | -0.05 | -0.11† | 0.35\*\* | 0.12 |
|  | (0.07) | (0.06) | (0.10) | (0.09) |
| District Conservatism | 0.07\* | 0.00 | 0.06† | -0.05 |
|  | (0.03) | (0.03) | (0.03) | (0.03) |
| District Population (100,000s) | 0.04 | 0.05† | 0.00 | 0.01 |
|  | (0.03) | (0.03) | (0.02) | (0.02) |
| District Median Income ($10,000s) | 0.00 | 0.01\*\* | 0.00 | 0.01\*\* |
|  | (0.01) | (0.00) | (0.00) | (0.01) |
| Staff Legislator Ratio | 0.02 | 0.04 |  |  |
|  | (0.03) | (0.04) |  |  |
| Legislator Hires Staff |  |  | 0.13† | 0.11 |
|  |  |  | (0.07) | (0.07) |
| Constant | 0.27\*\* | 0.14\* | 0.13 | 0.03 |
|  | (0.07) | (0.06) | (0.12) | (0.11) |
|  |  |  |  |  |
| Observations | 4,428 | 4,428 | 3,552 | 3,552 |
| R-squared | 0.13 | 0.17 | 0.10 | 0.10 |

Note: OLS regression coefficients with robust standard errors in parentheses. All models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

We also examined the gender of the staff member from whom we received the response, and we coded whether the staff reply came from a male or female name. We were interested in whether women legislators are more likely to hire female staff and whether female staff are more competent than male staff. As noted in the paper, we cannot measure this directly, but one observable implication is that staff replies from the offices of female legislators should be more likely to come from women than staff replies from the offices of male legislators. Of our 1,550 staff responses, we were able to code the gender of 1,425 names, or 92 percent of the total. A surprisingly high proportion of staff replies from both male and female legislator offices came from female names: 71.5 percent of staff replies from female legislator offices came from female names, whereas 70.2 percent of the replies from male legislator offices (this difference is not significant). Furthermore, responses from female staffers were actually less likely to be helpful than responses from male staffers (80.2 and 86.4 percent, respectively; p<0.01). In short, although we cannot directly measure gender patterns in hiring, it is not the case that staff responses from female legislator offices are more likely to come from female names, nor it is the case that female staff responses are more helpful than male staff responses.

**Appendix K: Legislator Gender and Volume of Constituent Requests**

 We also examined the possibility that women receive more requests from constituents and are thus better at dealing with such requests. We do not have strong theoretical motivation for this, but we analyzed this question from both the perspective of the legislator and the perspective of the constituent. First, we looked at whether female legislators receive more requests than male legislators. We used data from Herrick’s (2008) survey of state legislators, which is available through the ICPSR database. We examined the number of communications, such as emails, letters, and phone calls, that female and male legislators say they received per week during the last legislative session. Women receive 237 communications and men receive 198, but the difference is not statistically significant (p<0.32).

Second, we looked at whether constituents represented by female legislators are more likely to have contacted their legislator than constituents represented by male legislators. We used data from the 2016 ANES, and we examined whether respondents who are represented by female members of Congress are more likely to have contacted their MC than those who are represented by male members of Congress. Of those who were asked if they had contacted their congressional representative, 6 percent of those who were represented by a female MC did so (25/392) and 7 percent of those who were represented by a male MC did so (237/3253). The difference is not statistically significant (p<0.49). There is limited evidence from the perspective of legislators or voters that women are better dealing with constituent requests because they receive a greater volume of requests than male legislators.

**Appendix L: Gender and Legislative Responsiveness (Table 1), Logit**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |
| Female | 0.21\*\* | 0.29\*\* | 0.19\*\* | 0.27\*\* |
|  | (0.06) | (0.07) | (0.07) | (0.07) |
| Bills Sponsored |  |  | 0.19\*\* | 0.15\*\* |
|  |  |  | (0.04) | (0.05) |
| Republican | 0.09 | -0.13† | 0.11 | -0.12 |
|  | (0.07) | (0.08) | (0.07) | (0.08) |
| Senator | 0.31\*\* | 0.21\* | 0.23\*\* | 0.17† |
|  | (0.08) | (0.09) | (0.08) | (0.09) |
| Party Leader | 0.42\* | 0.46\* | 0.39\* | 0.44\* |
|  | (0.20) | (0.21) | (0.20) | (0.21) |
| Committee Chair | -0.01 | -0.07 | -0.05 | -0.09 |
|  | (0.07) | (0.07) | (0.07) | (0.07) |
| Years in Office | -0.03\*\* | -0.04\*\* | -0.04\*\* | -0.04\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Minority Party | -0.16\* | -0.19\*\* | -0.17\* | -0.20\*\* |
|  | (0.07) | (0.07) | (0.07) | (0.07) |
| Previous Vote Share | -0.01 | -0.02 | -0.01 | -0.02 |
|  | (0.01) | (0.02) | (0.01) | (0.02) |
| Up for Reelection | -0.10 | -0.85\* | -0.20 | -0.93\* |
|  | (0.29) | (0.41) | (0.29) | (0.41) |
| District Conservatism | 0.30\*\* | -0.05 | 0.32\*\* | -0.04 |
|  | (0.12) | (0.12) | (0.12) | (0.12) |
| District Population (100,000s) | -0.12\* | -0.06 | -0.10\* | -0.05 |
|  | (0.05) | (0.05) | (0.05) | (0.05) |
| District Median Income ($10,000s) | 0.02 | 0.09\*\* | 0.02 | 0.08\*\* |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Constant | -0.58\* | -1.28\*\* | -0.93\*\* | -1.56\*\* |
|  | (0.24) | (0.28) | (0.26) | (0.30) |
|  |  |  |  |  |
| Observations | 6,378 | 6,378 | 6,268 | 6,268 |

Note: Logistic regression coefficients with robust standard errors in parentheses. All models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

**Appendix L: Sex-Based Selection Models (Table 2), Logit**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |
| Female | 0.28\*\* | 0.37\*\* | 0.74\*\* | 0.84\*\* |
|  | (0.07) | (0.07) | (0.22) | (0.23) |
| District Conservatism | 0.18 | -0.20 |  |  |
|  | (0.13) | (0.13) |  |  |
| Female x District Conservatism | 0.55\*\* | 0.61\*\* |  |  |
|  | (0.20) | (0.20) |  |  |
| Women Friendly District Index |  |  | 0.00 | 0.09\*\* |
|  |  |  | (0.02) | (0.02) |
| Female x WFD Index |  |  | -0.09\*\* | -0.10\*\* |
|  |  |  | (0.03) | (0.03) |
| Bills Sponsored | 0.19\*\* | 0.16\*\* | 0.17\*\* | 0.18\*\* |
|  | (0.04) | (0.05) | (0.06) | (0.06) |
| Republican | 0.11 | -0.12 | 0.15† | 0.02 |
|  | (0.07) | (0.08) | (0.09) | (0.10) |
| Senator | 0.23\*\* | 0.17† | 0.13 | 0.08 |
|  | (0.08) | (0.09) | (0.11) | (0.12) |
| Party Leader | 0.40\* | 0.45\* | 0.36 | 0.40 |
|  | (0.20) | (0.21) | (0.23) | (0.25) |
| Committee Chair | -0.05 | -0.10 | -0.06 | -0.01 |
|  | (0.07) | (0.07) | (0.08) | (0.09) |
| Years in Office | -0.04\*\* | -0.04\*\* | -0.04\*\* | -0.04\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Minority Party | -0.18\*\* | -0.21\*\* | -0.20\* | -0.05 |
|  | (0.07) | (0.07) | (0.09) | (0.09) |
| Previous Vote Share | -0.01 | -0.02 | -0.02 | -0.04† |
|  | (0.01) | (0.02) | (0.02) | (0.02) |
| Up for Reelection | -0.22 | -0.96\* | -0.63 | -0.44 |
|  | (0.29) | (0.41) | (0.57) | (0.54) |
| District Population (100,000s) | -0.10\* | -0.05 | 0.02 | 0.06 |
|  | (0.05) | (0.05) | (0.07) | (0.08) |
| District Median Income ($10,000s) | 0.01 | 0.08\*\* | 0.01 | 0.05\* |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Constant | -0.93\*\* | -1.56\*\* | 0.87\* | -0.85\* |
|  | (0.26) | (0.30) | (0.42) | (0.42) |
|  |  |  |  |  |
| Observations | 6,268 | 6,268 | 3,913 | 3,913 |

Note: Logistic regression coefficients with robust standard errors in parentheses. All models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

**Appendix L: Male-Dominated Institution Models (Table 2), Logit**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |
| Female | 0.39† | 0.37† | 0.21 | 0.26\* |
|  | (0.21) | (0.21) | (0.13) | (0.13) |
| Percent Women in Legislature | 0.10 | 0.34 |  |  |
|  | (0.43) | (0.44) |  |  |
| Female x Percent Women in Legislature | -0.86 | -0.45 |  |  |
|  | (0.79) | (0.78) |  |  |
| Percent Women Committee Chairs |  |  | 0.12 | 0.30 |
|  |  |  | (0.28) | (0.29) |
| Female x Percent Women Chairs |  |  | -0.23 | -0.09 |
|  |  |  | (0.49) | (0.49) |
| Bills Sponsored | 0.21\*\* | 0.22\*\* | 0.21\*\* | 0.21\*\* |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Republican | 0.06 | -0.16\* | 0.06 | -0.16\* |
|  | (0.07) | (0.07) | (0.07) | (0.07) |
| Senator | 0.24\*\* | 0.04 | 0.23\*\* | 0.03 |
|  | (0.07) | (0.07) | (0.07) | (0.07) |
| Party Leader | 0.43\* | 0.49\* | 0.44\* | 0.50\* |
|  | (0.20) | (0.19) | (0.20) | (0.19) |
| Committee Chair | -0.07 | -0.06 |  |  |
|  | (0.06) | (0.06) |  |  |
| Years in Office | -0.05\*\* | -0.05\*\* | -0.05\*\* | -0.05\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Minority Party | -0.20\*\* | -0.17\*\* | -0.17\*\* | -0.15\* |
|  | (0.06) | (0.07) | (0.06) | (0.06) |
| Previous Vote Share | 0.01 | 0.04\*\* | 0.01 | 0.04\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) |
| Up for Reelection | -0.18\* | -0.35\*\* | -0.12 | -0.30\*\* |
|  | (0.08) | (0.08) | (0.08) | (0.08) |
| District Conservatism | 0.12 | 0.03 | 0.14 | 0.05 |
|  | (0.10) | (0.10) | (0.10) | (0.10) |
| District Population (100,000s) | -0.06\*\* | 0.11\*\* | -0.07\*\* | 0.10\*\* |
|  | (0.03) | (0.03) | (0.02) | (0.03) |
| District Median Income ($10,000s) | 0.06\*\* | 0.12\*\* | 0.06\*\* | 0.12\*\* |
|  | (0.02) | (0.02) | (0.02) | (0.02) |
| Constant | -0.64\*\* | -1.92\*\* | -0.69\*\* | -1.95\*\* |
|  | (0.19) | (0.20) | (0.17) | (0.18) |
|  |  |  |  |  |
| Observations | 6,268 | 6,268 | 6,171 | 6,171 |

Note: Logistic regression coefficients with robust standard errors in parentheses. All models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

**Appendix L: Legislative Responsiveness, Considering Staff and Ideology (Table 3), Logit**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
|  | Reply | Helpful Reply | Reply | Helpful Reply | Reply | Helpful Reply |
| Female | 0.25\* | 0.31\* | 0.16\* | 0.22\* | 0.18\* | 0.22\*\* |
|  | (0.12) | (0.15) | (0.08) | (0.09) | (0.08) | (0.08) |
| Ideology (Liberal) |  |  |  |  | 0.23\*\* | 0.25\*\* |
|  |  |  |  |  | (0.08) | (0.09) |
| Bills Sponsored | 0.38\*\* | 0.21† | 0.21\*\* | 0.16\*\* | 0.19\*\* | 0.19\*\* |
|  | (0.08) | (0.11) | (0.05) | (0.06) | (0.05) | (0.05) |
| Republican | 0.02 | -0.76\*\* | 0.11 | -0.21\* | 0.40\*\* | 0.28\* |
|  | (0.14) | (0.21) | (0.08) | (0.10) | (0.13) | (0.14) |
| Senator | 0.26 | -0.06 | 0.08 | -0.13 | 0.20\* | 0.20\* |
|  | (0.18) | (0.23) | (0.10) | (0.12) | (0.09) | (0.10) |
| Party Leader | -0.27 | 0.02 | 0.23 | 0.53\* | 0.43\* | 0.54\* |
|  | (0.36) | (0.45) | (0.24) | (0.26) | (0.20) | (0.22) |
| Committee Chair | -0.09 | -0.13 | -0.02 | -0.08 | -0.03 | -0.09 |
|  | (0.12) | (0.14) | (0.08) | (0.09) | (0.08) | (0.08) |
| Years in Office | -0.04\*\* | -0.08\*\* | -0.04\*\* | -0.06\*\* | -0.03\*\* | -0.04\*\* |
|  | (0.01) | (0.02) | (0.01) | (0.01) | (0.01) | (0.01) |
| Minority Party | -0.13 | -0.53\* | -0.14† | -0.19\* | -0.16\* | -0.17\* |
|  | (0.13) | (0.21) | (0.08) | (0.10) | (0.08) | (0.08) |
| Previous Vote Share | 0.02 | 0.04 | -0.01 | -0.03 | -0.02 | -0.04\* |
|  | (0.02) | (0.03) | (0.02) | (0.02) | (0.02) | (0.02) |
| Up for Reelection | -0.42 | -0.79 | -0.05 | -0.60 | -0.15 | -1.08\* |
|  | (0.36) | (0.49) | (0.30) | (0.43) | (0.33) | (0.49) |
| District Conservatism | 0.35 | 0.32 | 0.30\* | -0.03 | 0.31\* | -0.08 |
|  | (0.23) | (0.29) | (0.13) | (0.15) | (0.14) | (0.14) |
| District Population (100,000s) | -0.03 | 0.34 | -0.23\*\* | -0.10 | -0.11† | -0.09 |
|  | (0.32) | (0.40) | (0.09) | (0.08) | (0.06) | (0.06) |
| District Median Income ($10,000s) | 0.04 | 0.15\*\* | -0.01 | 0.06\* | 0.03 | 0.09\*\* |
|  | (0.04) | (0.06) | (0.02) | (0.02) | (0.02) | (0.02) |
| Constant | -1.55\*\* | -2.03\*\* | -0.96\*\* | -1.49\*\* | -1.07\*\* | -1.77\*\* |
|  | (0.43) | (0.57) | (0.29) | (0.36) | (0.31) | (0.36) |
| Observations | 1,932 | 1,932 | 4,809 | 4,809 | 4,894 | 4,894 |

Note: Logistic regression coefficients with robust standard errors in parentheses. All models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

**Appendix L: Legislative Responsiveness and Gender-Based Representation (Table 4), Logit**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
|  | Reply | Helpful Reply | Reply | Helpful Reply | Reply | Helpful Reply |
|  |  |  |  |  |  |  |
| Female Legislator | 0.19\* | 0.27\*\* | 0.13 | 0.22\* | 0.19\*\* | 0.27\*\* |
|  | (0.09) | (0.10) | (0.09) | (0.10) | (0.07) | (0.07) |
| Female Constituent | -0.06 | -0.06 |  |  | -0.15† | -0.10 |
|  | (0.06) | (0.07) |  |  | (0.08) | (0.08) |
| Female Legislator x Female Constituent | -0.00 | -0.00 |  |  |  |  |
|  | (0.13) | (0.13) |  |  |  |  |
| Gender Appeal |  |  | -0.03 | 0.05 | -0.08 | 0.04 |
|  |  |  | (0.06) | (0.07) | (0.08) | (0.08) |
| Female Legislator x Gender Appeal |  |  | 0.11 | 0.10 |  |  |
|  |  |  | (0.13) | (0.13) |  |  |
| Female Constituent x Gender Appeal |  |  |  |  | 0.16 | 0.08 |
|  |  |  |  |  | (0.11) | (0.11) |
| Bills Sponsored | 0.19\*\* | 0.15\*\* | 0.19\*\* | 0.15\*\* | 0.19\*\* | 0.15\*\* |
|  | (0.04) | (0.05) | (0.04) | (0.05) | (0.04) | (0.05) |
| Republican | 0.11 | -0.12 | 0.11 | -0.12 | 0.11 | -0.12 |
|  | (0.07) | (0.08) | (0.07) | (0.08) | (0.07) | (0.08) |
| Senator | 0.23\*\* | 0.17† | 0.23\*\* | 0.17† | 0.23\*\* | 0.17† |
|  | (0.08) | (0.09) | (0.08) | (0.09) | (0.08) | (0.09) |
| Party Leader | 0.39\* | 0.44\* | 0.40\* | 0.44\* | 0.39\* | 0.44\* |
|  | (0.20) | (0.21) | (0.20) | (0.21) | (0.20) | (0.21) |
| Committee Chair | -0.04 | -0.09 | -0.04 | -0.09 | -0.04 | -0.09 |
|  | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) |
| Years in Office | -0.04\*\* | -0.04\*\* | -0.04\*\* | -0.04\*\* | -0.04\*\* | -0.04\*\* |
|  | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Minority Party | -0.17\* | -0.20\*\* | -0.17\* | -0.20\*\* | -0.17\* | -0.20\*\* |
|  | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) |
| Previous Vote Share | -0.01 | -0.02 | -0.01 | -0.02 | -0.01 | -0.02 |
|  | (0.01) | (0.02) | (0.01) | (0.02) | (0.01) | (0.02) |
| Up for Reelection | -0.20 | -0.93\* | -0.20 | -0.93\* | -0.20 | -0.93\*\* |
|  | (0.29) | (0.41) | (0.29) | (0.41) | (0.29) | (0.41) |
| District Conservatism | 0.32\*\* | -0.04 | 0.32\*\* | -0.04 | 0.32\*\* | -0.04 |
|  | (0.12) | (0.12) | (0.12) | (0.12) | (0.12) | (0.12) |
| District Population (100,000s) | -0.10\* | -0.05 | -0.10\* | -0.04 | -0.10\* | -0.05 |
|  | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| District Median Income ($10,000s) | 0.02 | 0.08\*\* | 0.02 | 0.08\*\* | 0.02 | 0.08\*\* |
|  | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Constant | -0.89\*\* | -1.53\*\* | -0.92\*\* | -1.58\*\* | -0.86\*\* | -1.55\*\* |
|  | (0.26) | (0.30) | (0.26) | (0.30) | (0.26) | (0.30) |
|  |  |  |  |  |  |  |
| Observations | 6,268 | 6,268 | 6,268 | 6,268 | 6,268 | 6,268 |

Note: Logistic regression coefficients with robust standard errors in parentheses. All models include state fixed effects. \*\*p<0.01, \*p<0.05, †p<0.10.

1. For additional discussion, see Teele (2014). [↑](#footnote-ref-1)